TEPPL





Traffic Engineering Policies,
Practices, and Legal Authority
Resource

Mission Statement

• To provide concise and up-to-date policies, practices, and legal authority resources to North Carolina Department of Transportation Engineers and Officials in the most efficient manner. Also, to provide adequate insight and information to County and City officials and to the general public.

TEPPL Workgroup

- Ron King, PE
- Susan Kunz
- Cheryl Bitting
- Clarke Swindell
- David Robertson, PE
- Clarence Bunting, PE
- Steve Piotrowski
- Larry Stallings, PE
- Ken Ivey, PE



Past Contributors

- •Troy Peoples, PE
- •Melody Bennett
- •Frank Murray
- Stephen Overton



STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

TEPPL Process

• Review old Practices and Policies from the 80's and 90's



• Develop new Practices and Policies to meet

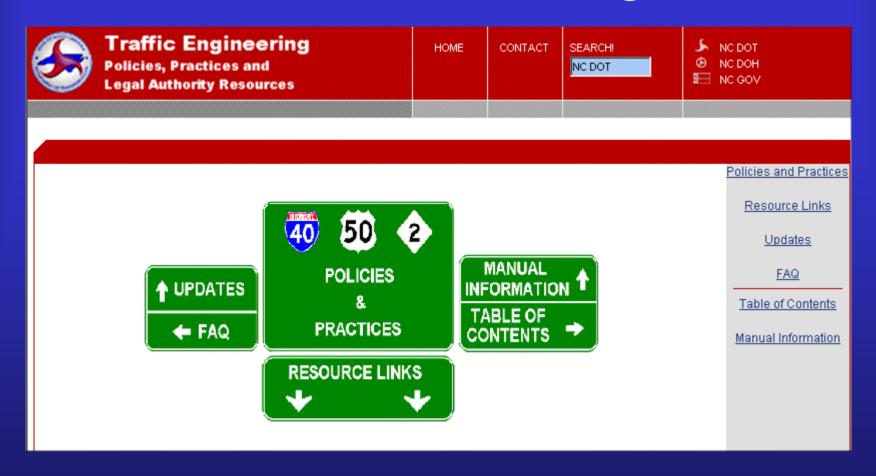
today's needs



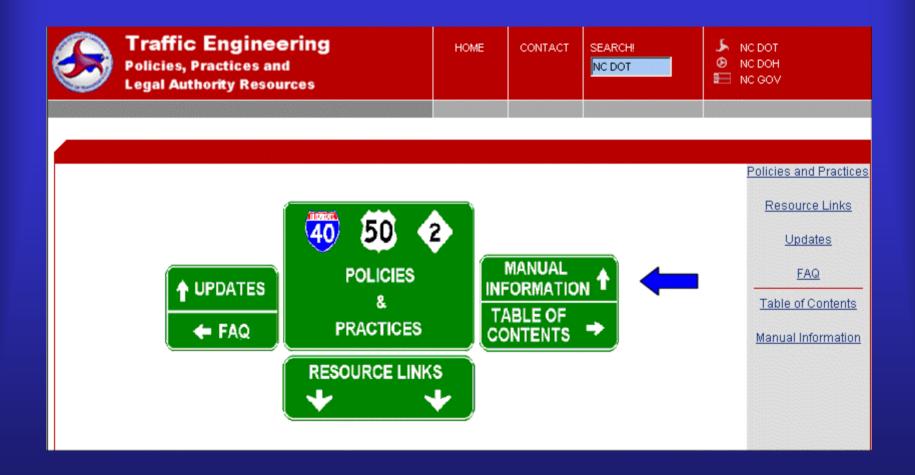
• Draft and Proposed Practices are reviewed by Division Engineers, Regional Engineers, and others



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Traffic Engineering Policies, Practices and Legal Authority Resource (TEPPL)

Traffic Engineering and Safety Systems Branch Division of Highways North Carolina Department of Transportation

J. Kevin Lacy, PE, CPM, State Traffic Engineer

Kenneth W. Ivey, PE, Transportation Staff Engineer

 Ron King, PE
 Office: (919) 250-4143 x259

 State Signing Engineer
 Fax: (919) 250-4149

Vacant

Traffic Congestion & Engineering Operations Engineer

A.D. (Tony) Wyatt, PE Office: (919) 733-1593 Traffic Engineering Safety Fax: (919)-2261 Programs Engineer

e-mail: TEPPL@dot state no us

Teppl Workgroup

August 25, 2004

Ron King, P.E., State Signing Engineer

Susan Kunz, Signing Programs Engineer

Cheryl Bitting, Traffic Engineering Web Master

Clarke Swindell, TEPPL Web Master, Signing Section

David W. Robertson, P.E., M.C.E., Signing Section

Clarence B. Bunting, P.E., Signing Section

Stephen Piotrowski, Signing Section

Larry N. Stallings, P.E., Signing Section

Ken W. Ivey, P.E., Branch Staff Engineer

Past Contributors

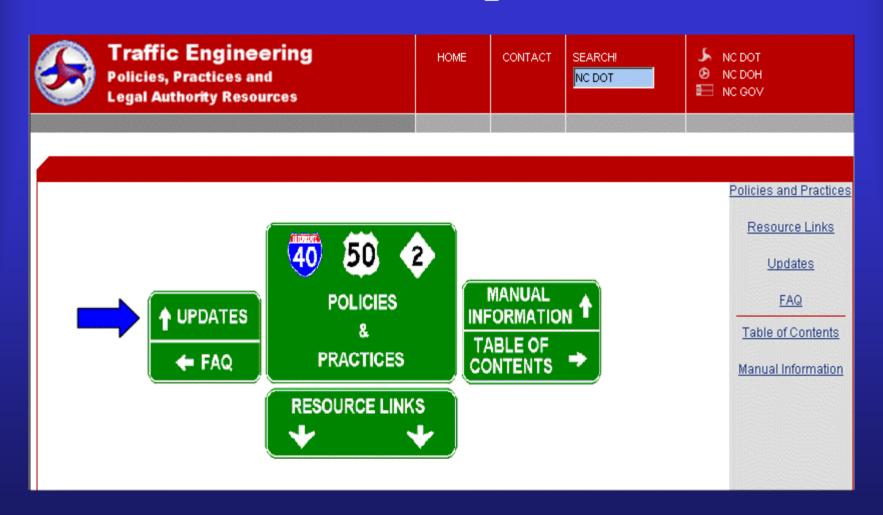
Troy A. Peoples, P.E., State Traffic Engineer (Retired/2004)

Melody Bennett, Computer Consultant (Div. IV)

Frank Murray, Traffic Engineering (Div. VII)

Stephen Overton, Computer Specialist, Signing Section

TEPPL Updates



Updates



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MC DOTMC DOHMC GOV

Topics Added by Month

2004: January July A

TEPPL Topics: Coming Soon

February

August

March

ch April

May

June

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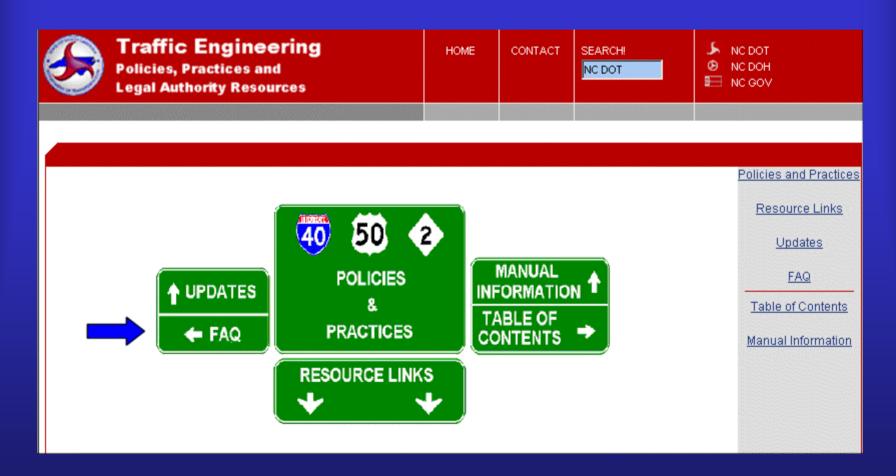
Traffic Engineering Safety Systems Branch



Updates: Coming Soon

FEPPL Topics	s coming soon to a Computer near vou: September/October 200
• A-7	Agricultural Tourism Signing
• A-8	Airport Signing
• A-23	Agricultural District Signing
▶ B-16	Bridge Ices Before Road
• H-13	Historic District Signing
♦ H-14	Historic Landmarks(Sites) Signing
◆ M-06	Median Crossover Signing
• M-35	Museum Signing
• M-40	Motor Sport Facility/Museum Signing
• R-33	River Basin Signing
• S-05	Primary (K-5) and Secondary (6-12) School Signing
• S-38	Speed Plaques-Advisory Speed
◆ T-13	Traffic Generators- Criteria for Signing
◆ T-15	Traffic Generators That Do Not Warrant Signing
• W-17	Welcome To Signing (special)

TEPPL FAQ



Frequently Asked Questions



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Frequently Asked Questions

1. Who comprises the TEPPL work group? Click Here

2. What is the TEPPL?

TEPPL is the Traffic Engineering Policies, Practices, and Legal Authority. It originated as a series of manuals to provide NCDOT staff a place to find documented and/or official information on topics related to traffic engineering, and to hopefully encourage consistent responses to and implementation of transportation questions and issues. The TEPPL has developed into a website resource manual with various links to find information on many highway and transportation issues. The TEPPL is mainly designed to make our NCDOT practices and policies, and associated documents, easily accessible to interested parties in a format that can be readily maintained and updated by traffic engineering staff.

3. Why is the TEPPL website being developed?

The TEPPL website is being developed to create a central location where policies and procedures can be compiled and distributed in order for transportation practices to be addressed uniformly statewide.

4. Where is the TEPPL website being maintained?

The N.C.D.O.T. Traffic Engineering Branch will maintain the TEPPL website in Raleigh.

5. How were topics and resources selected?

All available topic and resource data was collected from statewide and Raleigh sources. Information continues to be compiled. Both the number of topics and the number of resources continue to expand as additional topics are identified.

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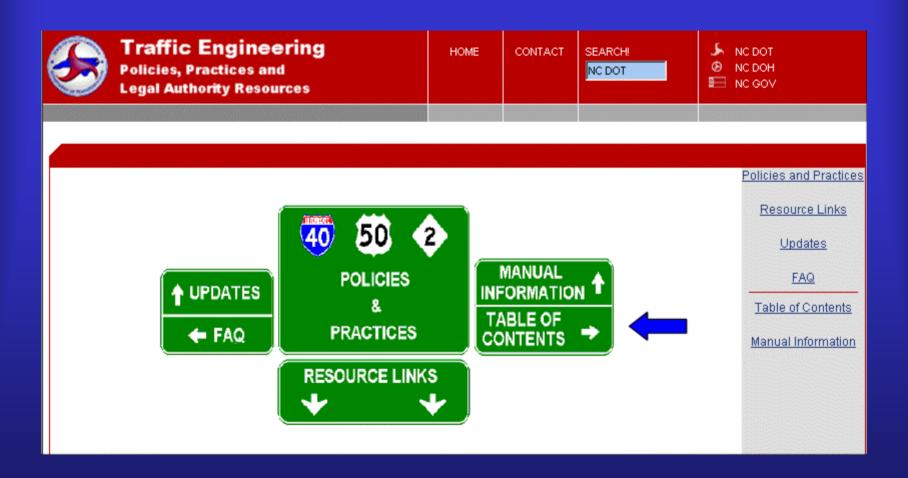
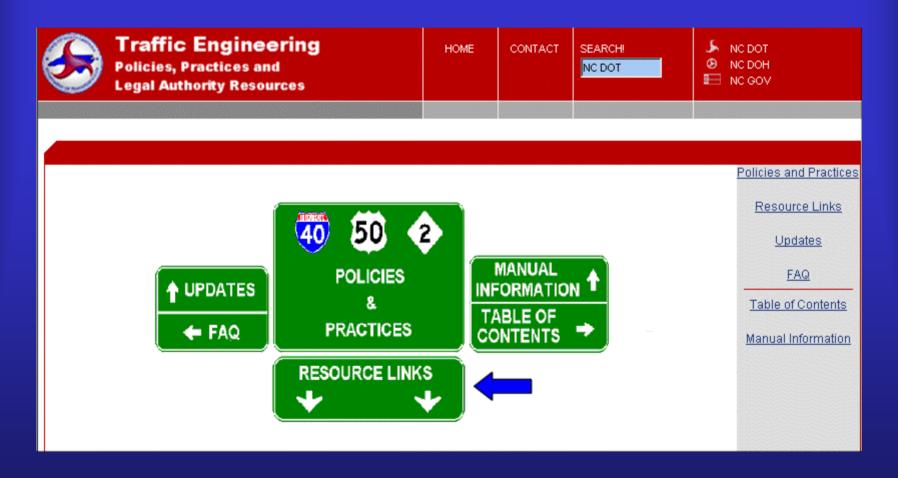


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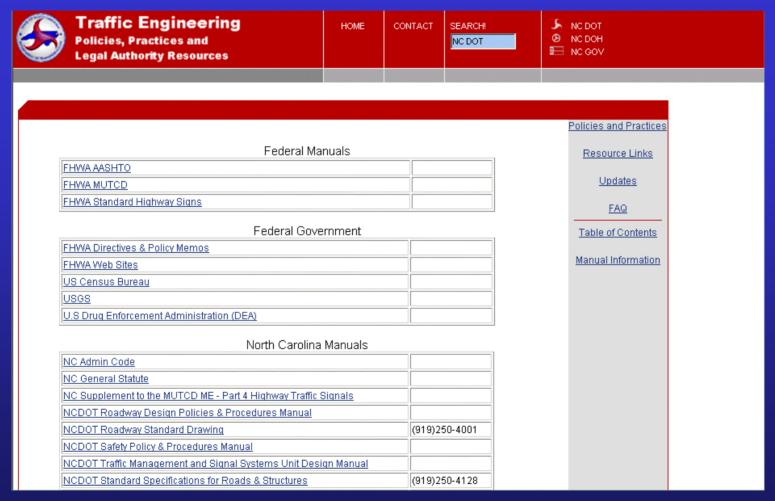
В		
Barrier - Guidelines for Placement of Median Barrier / Guardwall	1	Х
Beach Access - Regional Public	2	Х
Beautification Logo Signs / Keep NC Clean & Green	3	Х
Bicycle Facilities / Signing	4	X
Bicycle Routes - Urban / Alternate Signing	5	\mathbf{x}
Bicycle Trails	6	х
see B-05 / Bloycle Routes - Urban / Alternate Signing Bicyclist Hazard, Hazardous Tracks Signing	7	\mathbf{x}
Bikeways - Designation for Public Roads see B-04 / Bloycle Facilities Signing	8	X
Bird Sanctuary	9	Х
Blind Child Area Signing	10	х
Blinding - Deceptive Or Distracting Lights Unlawful	11	\mathbf{x}
Blood Centers / American Red Cross Signing	12	X
Blue Star Memorial Highway see B-14 / Blue Star Memorial Highway - American Ex. Prisoners of War	13	X
Blue Star Memorial Highway - American Ex-Prisoners of War	14	Х
Breakaway Highway Sign Supports	15	X
Bridge - Bridge Ices Before Roadway	16	\mathbf{x}
Bridge - End Delineators see C-40 / Culvert Endwalls - Object Markers	17	X
Bridge - Load Limits see W-12 / Weight Limit - Of Vehicles & Load	18	Х
Bridge - No Fishing from see R-28 / Right-of-Way - No Fishing / No Deer Hunting / No Hunting on Highway R.O.W.	19	х
Bridge - No Jumping And / Or Diving From	20	\mathbf{x}
Bridge - Signing And Pavement Markings One Lane And Narrow Bridges	21	\mathbf{x}
Bridge - Tunnels & Bridges - Special Clearance Signing	22	\mathbf{x}
Bridge - Weight Limit Signs see W-11 / Weight Limit - Advance Skining For Readways And Bridges	23	Х
Bus Station and/or Transit Stop	24	Х
Business District	25	Х
Business Watch	26	X

С		
Camping	1	х
Camps - Private Retreats, etc	45	X
Cattle Crossing	2	X
Chambers Of Commerce	3	\mathbf{x}
Changeable Message Signs	4	\mathbf{x}
Children - Autistic Child	44	
see A-18 / Autistic Child		
Children - Blind Child	43	
see B-10 / Bind Child Children - Deaf Child	42	
see D-27 Deaf Child	**	
Children At Play	5	\mathbf{x}
see W-07 / Watch For Children Playing Signs		x
Children's Homes and Orphanage Signs	6	А
Cities / Towns - Incorporated - Signs For Specific Sections Or Areas	7	
Citizens - A County Of Involved Citizens - Volunteer	8	X
Clear Zone - Guidelines For Tree, Shrub Planting On Right-of-Way see C-10 / Clear Zone - Roadway	9	Х
Clear Zone - Roadway	10	X
Closing Of Roads For Special Events	11	
Closing Secondary Roads For Flood Water Retention	12	
Colleges	13	\mathbf{x}
see S-05 / School - Colleges / Universities Collision / Accident System Strip And Intersection Report Code Index	14	x
see C-33 / Crash - Intersection and Strip Reports Code Index	14	
Collision / Fatal Slips And Crash Report Codes	15	X
see C-34 / Crash Report Form DMV-349 Communities - Unincorporated Directional Signs	16	х
Community - Piedmont Triad Signs	17	~
,	"	
Community Award Winners (Regional)	18	
Community Multi-Use Signs see M-37 / Multi-Use Community Signs	46	Х
Community Watch	19	X
Community Watch Signs - Alternate	20	\mathbf{x}

TEPPL Resource Links

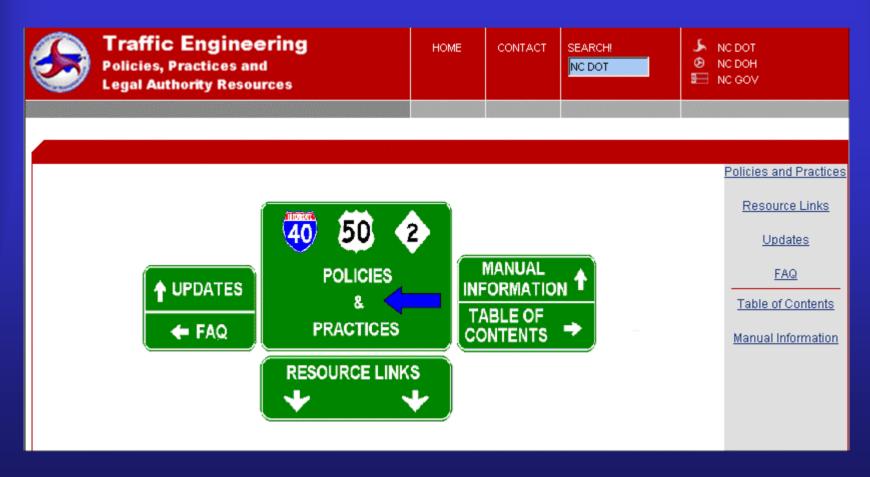


TEPPL Online Resource Links

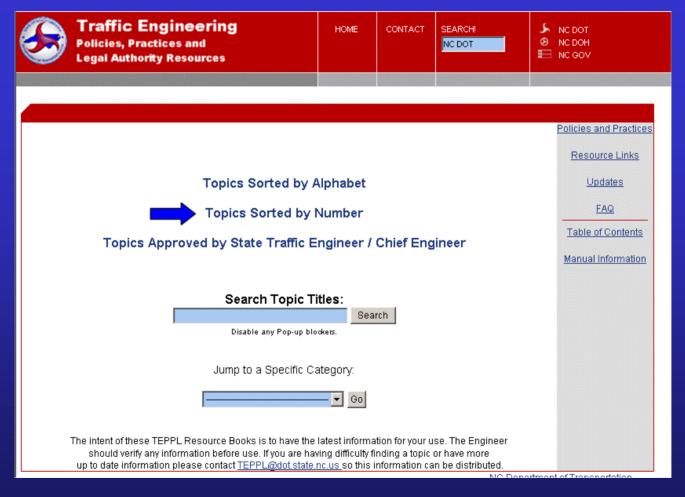




Practices and Policies



By Alphabet or Number



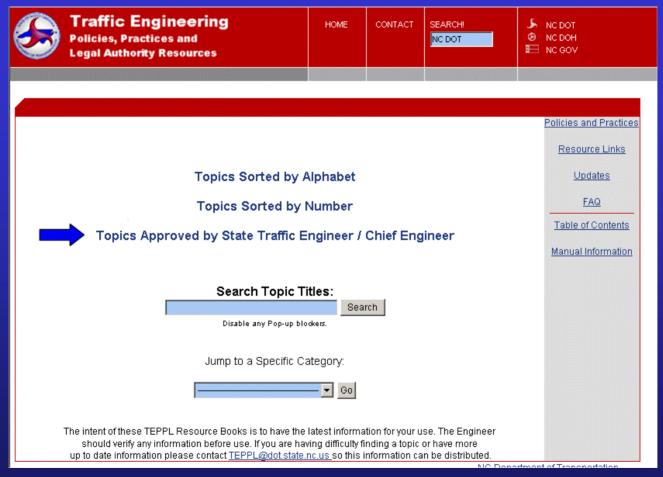
By Alphabet or Number



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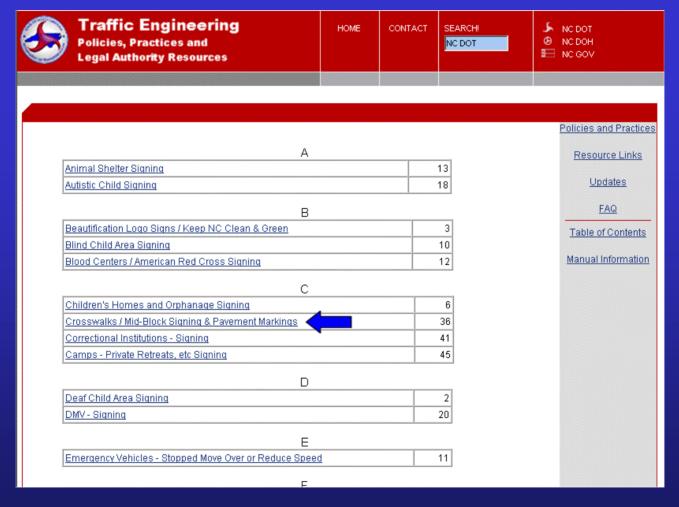
Autistic Child Signing

State Traffic Engineer and Chief Engineer





State Traffic Engineer and Chief Engineer





Crosswalks / Mid-Block Signing & Pavement Markings

Division of Highways
Traffic Engineering and Safety Systems Branch

The following reference(s) give(s) North Carolina Department of Transportation the authority to install/remove/enforce/establish Crosswalks / Mid-Block Signing & Pavement Markings.

Resource Title R	teference Information			
NCDOT Signing Section	2004			Sign Designs
NCDOT Sign Standard	2004			Sign Typicals
NCDOT State Traffic Eng/Chief Eng	g 2004	Varnedoe P.E./ Lacy, P.E.	7/22/2004	<u>Memo</u>
Traffic Engineering And Safety Syst	tems Branch 2004	Crosswalks		<u>Practice</u>

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Traffic Engineering Safety
Systems Branch

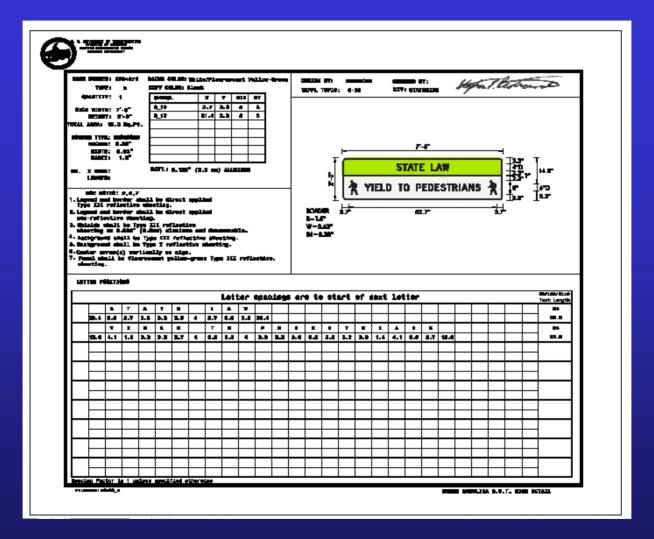
Updates

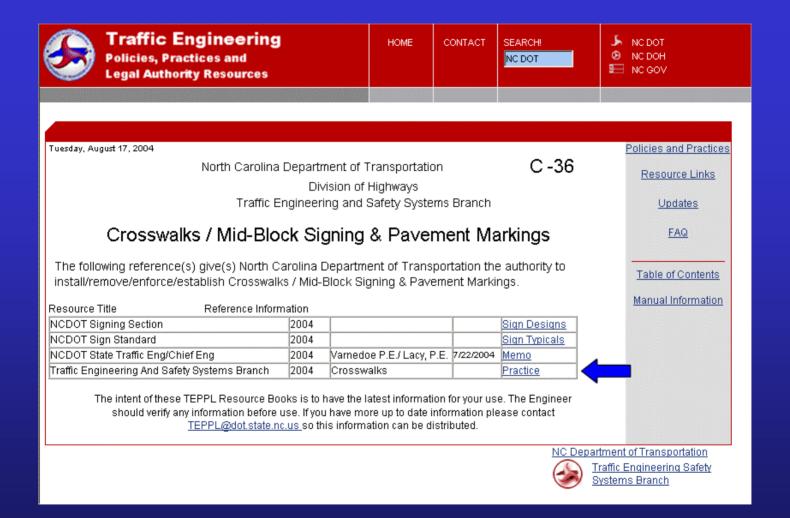
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6-29-04 C-36

North Carolina Department of Transportation Division of Highways Traffic Engineering and Safety Systems Branch

STANDARD PRACTICE

for

Crosswalks - Mid-Block (Unsignalized) Signing and Pavement Markings

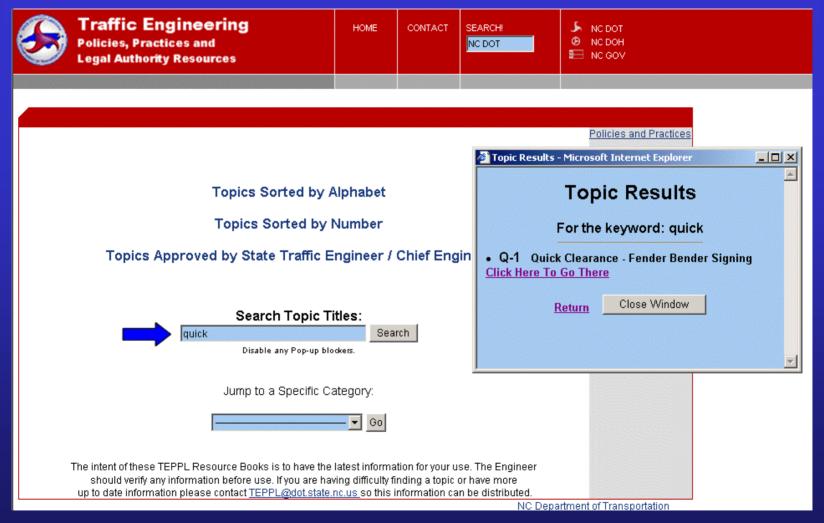
It will be the standard practice of NCDOT to install Mid-Block Crosswalks based on an engineering study. All Mid-Block Crosswalks shall be signed and marked in compliance with the Manual on Uniform Traffic Control Devices (MUTCD), the North Carolina Supplement to the MUTCD, the current NCDOT Roadway Standard Drawings, and the standards herein.

CRITERIA

For Unsignalized Mid-Block Crosswalks(only)

- Installation of a Mid-Block Crosswalk shall be made only after an NCDOT
 engineering study determines that other alternative traffic control measures are not
 justified and that a Mid-Block Crosswalk can enhance transportation operation and
 pedestrian safety. Any operational or safety concerns occurring following installation
 should be documented, and noted as part of an on going engineering study, and could
 result in removal of the Mid-Block Crosswalk.
- Unless otherwise determined on the basis of the engineering study, Mid-Block Crosswalks should not be installed on roadways with a speed limit greater than 35 MPH.
- Mid-Block Crosswalks should not be located within 100 feet of a non-signalized intersection and 150 feet of a signalized intersection.
- Mid-Block Crosswalk pavement markings and crossing design should conform to, or exceed, Standard No. 848.05 sheet [] [] [] and/or Standard No. 1205.07] as depicted in the current edition of the NCDOT Roadway Standard Drawings. See attached copy.

Search Engine





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MC DOTMC DOHMC GOV

Friday, February 13, 2004

North Carolina Department of Transportation

Division of Highways

Traffic Engineering and Safety Systems Branch

Quick Clearance - Fender Bender

The following reference(s) give(s) North Carolina Department of Transportation the authority to install/remove/enforce/establish Quick Clearance - Fender Bender.

Resource Title		Reference Information				
NC General Statute	2004		1/28/04	<u>Statute</u>		
NCDOT State Traffic Eng/Chief Eng	2004	Peoples, P.E. / Varnedoe, P.E.	2/4/04	<u>Memo</u>		
NCDOT Sign Standard	2004			<u>Design</u>		
Traffic Engineering And Safety Systems Branch	2004		1/28/04	<u>Practice</u>		
NCDOT in the News	2004		6/24/04	<u>News</u>		
Traffic Engineering And Safety Systems Branch	2004	Addendum to Practice	7/22/04	Addendum		
NCDOT State Traffic Eng/Chief Eng	2004	Lacy, P.E. / Varnedoe, P.E.	7/19/04	<u>Memo</u>		

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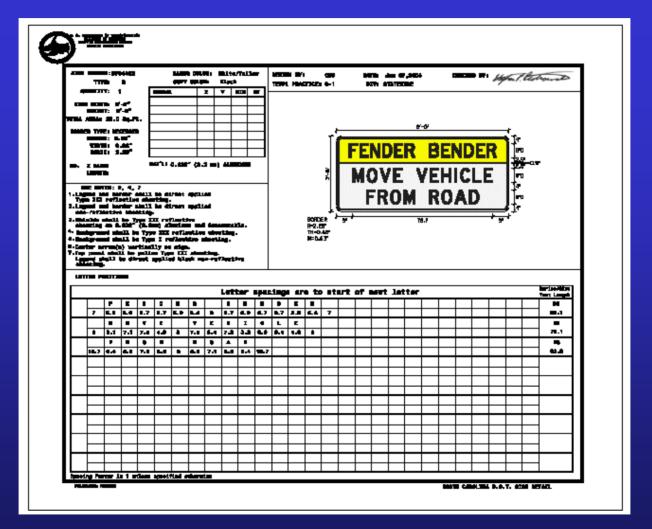
NC Department of Transportation

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Friday, February 13, 2004

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Quick Clearance - Fender Bender

The following reference(s) give(s) North Carolina Department of Transportation the authority to install/remove/enforce/establish Quick Clearance - Fender Bender.

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NCDOT State Traffic Eng/Chief Eng	2004	Peoples, P.E. / Varnedoe, P.E.	2/4/04	<u>Memo</u>		
NCDOT Sign Standard	2004			<u>Design</u>		
Traffic Engineering And Safety Systems Branch	2004		1/28/04	<u>Practice</u>		
NCDOT in the News	2004		6/24/04	<u>News</u>		
Traffic Engineering And Safety Systems Branch	2004	Addendum to Practice	7/22/04	<u>Addendum</u>		
NCDOT State Traffic Eng/Chief Eng	2004	Lacy, P.E. / Varnedoe, P.E.	7/19/04	<u>Memo</u>		

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NC Department of Transportation



Traffic Engineering Safety Systems Branch



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

1-28-04 Q-1

North Carolina Department of Transportation Division of Highways Traffic Engineering and Safety Systems Branch

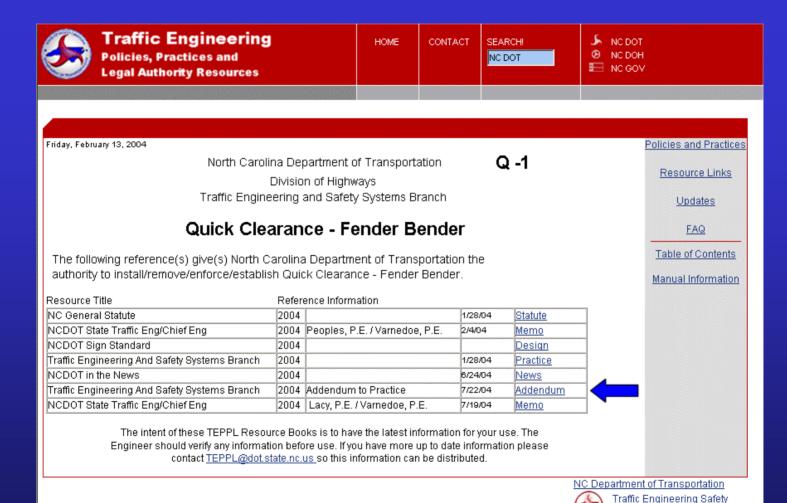
STANDARD PRACTICE for Quick Clearance, Fender Bender

It is the standard practice of NCDOT, based on GS 20-166 to install signs on the highway right-of-way to advise motorists to "Move Vehicle From Road" for "Fender Bender" type crashes. All signs shall be located and erected according to the standards of the Manual on Uniform Traffic Control Devices (MUTCD), the North Carolina Supplement to the Manual, and the North Carolina Roadway Standard Drawings.

CRITERIA

- "Fender Bender/ Move Vehicle From Road" signs should be installed on all interstate facilities at selected locations, as determined by the Division Engineer.
- "Fender Bender/ Move Vehicle From Road" signs may be erected at specific locations on the State Highway system as requested by the North Carolina Highway Patrol, the Department of Motor Vehicles or other emergency management officials based on engineering judgment, to advise motorists that vehicles involved in minor crashes can be moved off the roadway legally.
- Signs may be installed at selected locations on other State Highway facilities where the current traffic volumes have a potential for major traffic delays due to crashes.
- All requests should be forwarded to the appropriate Division Engineer for approval.
- All costs associated with the manufacturing, erecting and maintenance of any approved "Fender Bender/ Move Vehicle From Road" signing, will be the responsibility of NCDOT.
- The sign design for "Fender Bender/ Move Vehicle From Road" signing shall conform to the attached approved NCDOT Standards.





Systems Branch



7-19-04

Q-1 Addendum

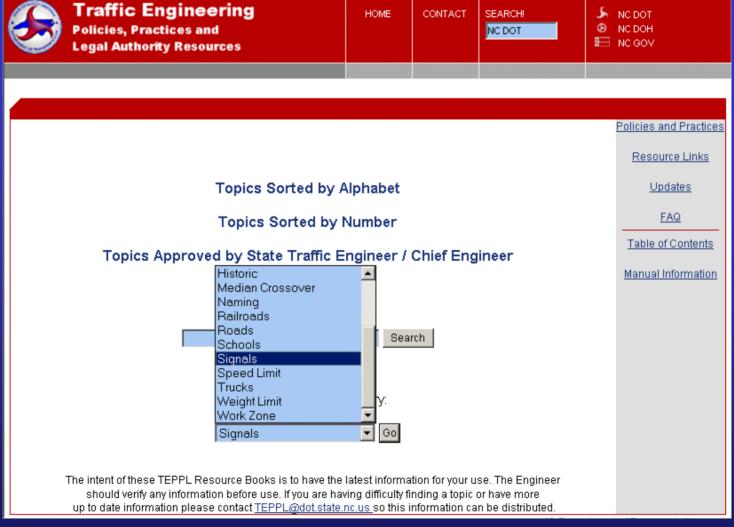
ADDITIONAL GUIDELINES to the STANDARD PRACTICE for Ouick Clearance, Fender Bender

In addition to the Criteria outlined in our Standard Practice, the following guidelines may be considered when determining sign locations:

- Along facilities within active Incident Management Assistance Patrol (IMAP) routes or in urban areas with high congestion and "stop and roll" conditions during peak traffic conditions.
- Downstream after interchanges along an interstate, a freeway type facility, or any other major route at selected locations.
- Where possible, the signs should be installed behind guardrail, along a cut section of the roadway, or other selected locations where the signs will cause the least safety and/or installation problems.
- · Minimum spacing of 15 miles between signs along a route being signed.
- Coordination should be established with adjacent Divisions along the same route.
- Within rest areas, welcome centers, truck pull-out areas, etc.
- The final determination on the use of these signs at any specific location rests with the appropriate Division Engineer, based on sign spacing, available funding, etc.

Note: The primary purpose of this practice is to advise motorist to move vehicles from roadway for minor fender bender type collisions as a means of reducing congestion and/or secondary collisions.

Category Search

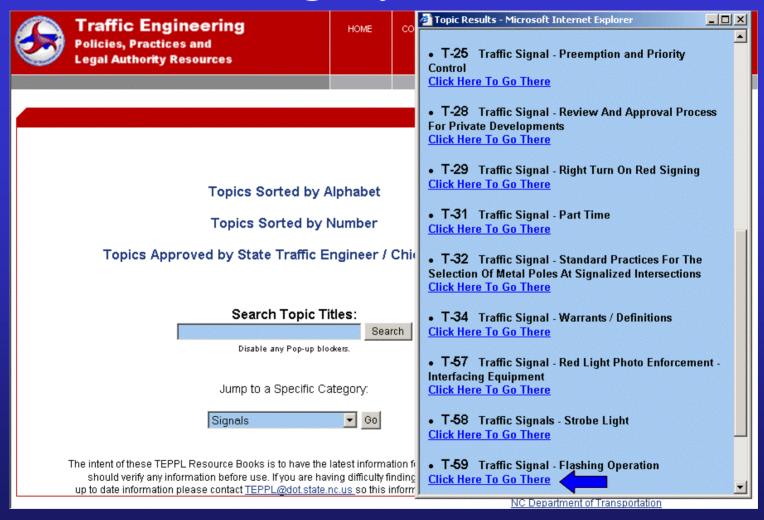




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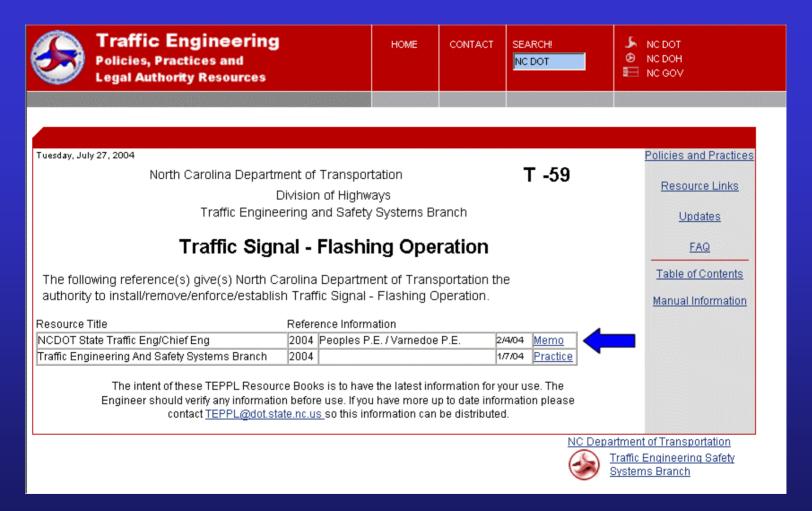
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Category Search

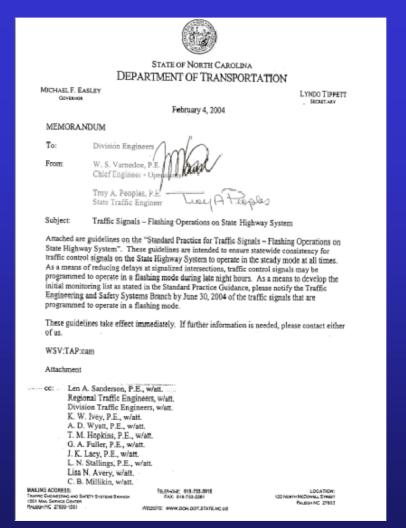




STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION











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NC DOT
 NC DOH
 NC GOV

Tuesday, July 27, 2004

North Carolina Department of Transportation

Division of Highways
Traffic Engineering and Safety Systems Branch

Traffic Signal - Flashing Operation

The following reference(s) give(s) North Carolina Department of Transportation the authority to install/remove/enforce/establish Traffic Signal - Flashing Operation.

Resource Title Reference Information

NCDOT State Traffic Eng/Chief Eng 2004 Peoples P.E. / Varnedoe P.E. 2/4/04 Memo

Traffic Engineering And Safety Systems Branch 2004 117/04 Practice

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North Carolina Department of Transportation Division of Highways Traffic Engineering and Safety Systems Branch

> Standard Practices for Traffic Signals -Flashing Operations On State Highway System

It will be the standard practice for traffic control signals operating on the State Highway System to operate in the steady mode at all times. As a means of reducing delays at signalized intersections, traffic control signals may be programmed to operate in a flashing mode during late night hours.

Guidance

- The late night period generally consists of the hours between Midnight and 5:00 AM, but
 may be defined differently for individual traffic control signals based on the operational
 needs at that particular location as determined by an engineering study.
- It will be the standard practice that in order to place a signal into flashing operations, a traffic signal operations study should be conducted by the Division Traffic Engineer, in conjunction with the Regional Traffic Engineer and Municipal Traffic Engineer when applicable.
- A traffic signal may be placed in late night flashing operation for the hours it is determined such operation will not be detrimental to the safety of motorists, bicyclists and pedestrians.
 In the event the Regional Traffic Engineer and the Division Traffic Engineer cannot mutually agree on the use of flashing operation, the final decision will rest with the State Traffic Engineer or designee.
- When a signal is placed into flashing operations, the Division Traffic Engineer will notify the State Traffic Engineer and Regional Traffic Engineer so it can be periodically monitored. This notification will include the date the signal was placed into flashing operations, and the days of the week and times that the signal is programmed to flash.
- The Traffic Safety Systems Management Unit will scan all signals on the monitoring list at least once every three months. If it appears that safety issues are developing, due to flashing operations, the Regional Traffic Engineer and Division Traffic Engineer will be notified and they will conduct an investigation of the location. If safety issues arise that could be corrected by returning the signal to steady mode operation, the traffic control signal will be reprogrammed for steady mode operation within 30 days. The Division Traffic Engineer will inform the State Traffic Engineer and Regional Traffic Engineer of any changes to the flashing operations for continued monitoring.
- The study to determine if it is suitable for the signal to be placed into flashing operation may
 be completed prior to signal installation. If the recommendation is to place the signal into
 flashing operations, the Division Traffic Engineer, in conjunction with the Regional
 Engineer, may program the traffic signal for late night flash operation at a time after
 completion of construction.

1.7.04



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY

LYNDO TIPPETT

January 12, 2004

MEMORANDUM

TO:

Troy Peoples, P.E. State Traffic Engineer

Example

FROM:

D. T. Engineer

Division Traffic Engineer

SUBJECT: Flashing Operations of Signal 01-001 in Dare County

This memorandum is to inform you that Signal 01-001 at the intersection of US 64 and SR 1003 has been studied and is being programmed for flashing operation. Regional Traffic Engineer, **Name Here** concurs with this decision. This traffic control signal was placed in flashing operations during the following days and times effective on January 3, 2004.

Day	Sun	Mon	Tue		Thur	Fri	Śat
Begin Time	1:30am	12:00am	12:00am	12:00am	12:00am	1:00am	2:00am
End time	7:00am	5:30am	5:30am	5:30am	5:30am	5:30am	7:00am

If you have any questions concerning this matter please contact me at (919) 555-1212.

DTE

cc: Regional Traffic Engineer

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Traffic Engineering

Policies, Practices and Legal Authority Resources